

WHAT IS CLAIMED IS:

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1. An image sensing method comprising:
- 5 a vibration detecting step of detecting vibration of an image sensing apparatus main body;
- a calculating step of calculating a correction variable based on vibration data indicative of the vibration of the image sensing apparatus main body detected in said vibration detecting step;
- 10 a control step of controlling a timing of reading an image signal from an image sensing device based on a calculation result of said calculating step;
- a delaying step of delaying the read image signal by predetermined time;
- 15 an adding step of adding the read image signal to the delayed image signal, delayed in said delaying step, at a predetermined addition ratio based on the calculation result of said calculating step; and
- an addition control step of prohibiting addition of said adding step when sensing a still image.
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2. The image sensing method according to claim 1, further comprising:
- a switching step of switching between a still
- 25 image sensing mode and a moving image sensing mode; and
- a recording step of performing recording operation

of the still image based on a mode switched in said switching step.

3. An image sensing method comprising:

5 a vibration detecting step of detecting vibration of an image sensing apparatus main body;

a calculating step of calculating a correction variable based on vibration data indicative of the vibration of the image sensing apparatus main body  
10 detected in said vibration detecting step;

a control step of controlling a timing of reading an image signal from an image sensing device based on a calculation result of said calculating step;

15 a delaying step of delaying the read image signal by predetermined time;

an adding step of adding the read image signal to the delayed image signal, delayed in said delaying step, at a predetermined addition ratio based on the calculation result of said calculating step; and

20 an addition ratio control step of controlling the addition ratio, used in said adding step, to 1:0 when sensing a still image.

4. The image sensing method according to claim  
25 3, further comprising:

a switching step of switching between a still

image sensing mode and a moving image sensing mode; and  
a recording step of performing recording operation  
of the still image based on a mode switched in said  
switching step.

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5. An image sensing apparatus comprising:  
vibration detecting means for detecting vibration  
of the image sensing apparatus main body;  
calculating means for calculating a correction  
10 variable based on vibration data indicative of the  
vibration of the image sensing apparatus main body  
detected by said vibration detecting means;  
control means for controlling a timing of reading  
an image signal from an image sensing device based on a  
15 calculation result of said calculating means;  
delaying means for delaying the read image signal  
by predetermined time;  
adding means for adding the read image signal to  
the delayed image signal, delayed by said delaying means,  
20 at a predetermined addition ratio based on the  
calculation result of said calculating means; and  
addition control means for prohibiting addition of  
said adding means when sensing a still image.

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6. The image sensing apparatus according to  
claim 5, further comprising:

switch means for switching between a still image sensing mode and a moving image sensing mode; and

recording means for performing recording operation of the still image based on a switched mode of said

5 switch means.

7. The image sensing apparatus according to claim 5, wherein said vibration detecting means is an angular velocity sensor.

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8. An image sensing apparatus comprising:

vibration detecting means for detecting vibration of an image sensing apparatus main body;

calculating means for calculating a correction  
15 variable based on vibration data indicative of the vibration of the image sensing apparatus main body detected by said vibration detecting means;

control means for controlling a timing of reading an image signal from an image sensing device based on a  
20 calculation result of said calculating means;

delaying means for delaying the read image signal by predetermined time;

adding means for adding the read image signal to the delayed image signal, delayed by said delaying means,  
25 at a predetermined addition ratio based on the calculation result of said calculating means; and

addition ratio control means for controlling the addition ratio, used by said adding means, to 1:0 when sensing a still image.

5           9.     The image sensing apparatus according to claim 8, further comprising:

switch means for switching between a still image sensing mode and a moving image sensing mode; and

10           recording means for performing recording operation of the still image based on a switched mode of said switch means.

15           10.    The image sensing apparatus according to claim 8, wherein said vibration detecting means is an angular velocity sensor.

20           11.    A storage medium storing a control program for controlling an image sensing apparatus, said control program having control modules comprising the steps of:

detecting vibration of an image sensing apparatus main body;

calculating a correction variable based on vibration data indicative of the detected vibration of the image sensing apparatus main body;

25           controlling a timing of reading an image signal from an image sensing device based on a calculation

result;

delaying the read image signal by predetermined time;

adding the read image signal to the delayed image  
5 signal at a predetermined addition ratio based on the calculation result; and

controlling to prohibit the adding step when sensing a still image.

10 12. The storage medium according to claim 11, said control program having control modules comprising the steps of:

switching between a still image sensing mode and a moving image sensing mode; and

15 controlling to perform recording operation of the still image based on a switched mode.

13. A storage medium storing a control program for controlling an image sensing apparatus, said control  
20 program having control modules comprising the steps of:

detecting vibration of an image sensing apparatus main body;

calculating a correction variable based on vibration data indicative of the detected vibration of  
25 the image sensing apparatus main body;

controlling a timing of reading an image signal

from an image sensing device based on a calculation result;

delaying the read image signal by predetermined time;

5 adding the read image signal to the delayed image signal at a predetermined addition ratio based on the calculation result; and

controlling the addition ratio to 1:0 when sensing a still image.

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14. The storage medium according to claim 13, said control program having control modules comprising the steps of:

switching between a still image sensing mode and a  
15 moving image sensing mode; and

controlling to perform recording operation of the still image based on a switched mode.

15. An image sensing method comprising:  
20 an image sensing step of sensing an object; and  
a vibration correction control step of correcting vibration of an image sensing apparatus main body,  
wherein in said vibration correction control step,  
only a predetermined correction position is used among  
25 settable correction positions.

16. The image sensing method according to claim 15, wherein in said vibration correction control step, the vibration of the image sensing apparatus main body is electrically corrected.

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17. The image sensing method according to claim 16, wherein in said vibration correction control step, signals for adjacent pixels are read simultaneously in the vertical direction from an image sensing device which is employed in said image sensing step, and a scan pixel area is changed at a minimum of one pixel pitch.

18. The image sensing method according to claim 17, wherein said vibration correction control step includes a shifting step of shifting an image up or down by adding image signals of vertically neighboring image signals.

19. The image sensing method according to claim 18, wherein in said vibration correction control step, only a predetermined correction position is utilized by appropriately controlling a shift amount of the scan pixel area and an addition ratio of the vertically neighboring image signals.

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20. The image sensing method according to claim



15, wherein said image sensing apparatus is a video camera.

21. An image sensing method comprising:  
5 an image sensing step of sensing an object; and  
a vibration correction control step of correcting  
vibration of an image sensing apparatus main body,  
wherein in said vibration correction control step,  
an image is shifted up or down by changing a scan pixel  
10 area at one pixel pitch and adding vertically  
neighboring image signals at a predetermined addition  
ratio so as to keep resolution of the image signals  
constant.

15 22. The image sensing method according to claim  
21, wherein in said vibration correction control step,  
the addition ratio of the vertically neighboring image  
signals is fixed to 1:7 or 7:1, and a correction pitch  
is set at 1/2 pixel pitch.

20 23. The image sensing method according to claim  
21, wherein said image sensing apparatus is a video  
camera.

25 24. An image sensing apparatus comprising:  
image sensing means for sensing an object; and

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vibration correction control means for correcting  
vibration of an image sensing apparatus main body,

wherein said vibration correction control means  
uses only a predetermined correction position among  
5 settable correction positions.

25. The image sensing apparatus according to  
claim 24, wherein said vibration correction control  
means electrically corrects the vibration of the image  
10 sensing apparatus main body.

26. The image sensing apparatus according to  
claim 25, wherein said vibration correction control  
means simultaneously reads signals for adjacent pixels  
15 in the vertical direction from an image sensing device  
which is employed by said image sensing means, and  
changes a scan pixel area at a minimum of one pixel  
pitch.

20 27. The image sensing apparatus according to  
claim 26, wherein said vibration correction control  
means includes shifting means for shifting an image up  
or down by adding vertically neighboring image signals.

25 28. The image sensing apparatus according to  
claim 27, wherein said vibration correction control

means utilizes only a predetermined correction position, by appropriately controlling a shift amount of the scan pixel area and an addition ratio of the vertically neighboring image signals.

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29. The image sensing apparatus according to claim 24, wherein said image sensing apparatus is a video camera.

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30. An image sensing apparatus comprising:  
image sensing means for sensing an object; and  
vibration correction control means for correcting vibration of an image sensing apparatus main body,  
wherein said vibration correction control means  
15 shifts an image up or down by changing a scan pixel area at one pixel pitch and adding vertically neighboring image signals at a predetermined addition ratio so as to keep resolution of the image signals constant.

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31. The image sensing apparatus according to claim 30, wherein said vibration correction control means fixes the addition ratio of the vertically neighboring image signals to 1:7 or 7:1, and sets a correction pitch at 1/2 pixel pitch.

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32. The image sensing apparatus according to

claim 30, wherein said image sensing apparatus is a video camera.

5 33. A storage medium storing a control program for controlling an image sensing apparatus, said control program having control modules comprising the step of controlling such that vibration correction control means which corrects vibration of an image sensing apparatus main body uses only a predetermined correction position  
10 among settable correction positions.

34. The storage medium according to claim 33, wherein said vibration correction control means electrically corrects the vibration of the image sensing  
15 apparatus main body.

35. The storage medium according to claim 34, wherein said vibration correction control means simultaneously reads signals for adjacent pixels in the  
20 vertical direction from an image sensing device which is employed by said image sensing means, and changes a scan pixel area at a minimum of one pixel pitch.

36. The storage medium according to claim 34,  
25 wherein said vibration correction control means includes shifting means for shifting an image up or down by

adding vertically neighboring image signals.

37. The storage medium according to claim 34,  
wherein said vibration correction control means utilizes  
5 only a predetermined correction position, by  
appropriately controlling a shift amount of the scan  
pixel area and an addition ratio of the vertically  
neighboring image signals.

10 38. The storage medium according to claim 33,  
wherein said image sensing apparatus is a video camera.

39. A storage medium storing a control program  
for controlling an image sensing apparatus, said control  
15 program having control modules comprising the step of  
shifting an image up or down by changing a scan pixel  
area at one pixel pitch and adding vertically  
neighboring image signals at a predetermined addition  
ratio to correct vibration of an image sensing apparatus  
20 main body, and making the predetermined addition ratio  
constant so as to keep resolution of the image signals  
constant.

40 The storage medium according to claim 34,  
25 wherein said vibration correction control means fixes  
the addition ratio of the vertically neighboring image

signals to 1:7 or 7:1 and sets a correction pitch at  
1/2 pixel pitch.

41. The storage medium according to claim 38,  
5 wherein said image sensing apparatus is a video camera.

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